

CRF Errors Corrected by the STIC Systems Branch

Serial Number: 10/069,540A

CRF Processing Date: 1/27/2003  
 Edited by: [Signature]  
 Verified by: [Signature] (STIC staff)

**ENTERED**

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: \_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- ☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☒ Other: deleted "cut and paste" erroneous section in  
sequence 2.

\*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.



OIPE

## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:51:08

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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5 <110> APPLICANT: Prendergast, George C.
7     Kai, Ge
11 <120> TITLE OF INVENTION: Bridging Integrator-2 (BIN2) Nucleic Acid Molecules and
Proteins and Uses
12     Therefor
16 <130> FILE REFERENCE: WST89AUSA
C--> 20 <140> CURRENT APPLICATION NUMBER: US/10/069,540A
C--> 20 <141> CURRENT FILING DATE: 2002-02-25
20 <150> PRIOR APPLICATION NUMBER: US 60/151,554
22 <151> PRIOR FILING DATE: 1999-08-31
26 <160> NUMBER OF SEQ ID NOS: 4
30 <170> SOFTWARE: PatentIn version 3.1
34 <210> SEQ ID NO: 1
36 <211> LENGTH: 2196
38 <212> TYPE: DNA
40 <213> ORGANISM: Homo sapiens
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46 <221> NAME/KEY: CDS
48 <222> LOCATION: (28)..(1719)
50 <223> OTHER INFORMATION:
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56 <221> NAME/KEY: misc_feature
58 <222> LOCATION: (2032)..(2032)
60 <223> OTHER INFORMATION: can be a or c or g or t
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67                               1             5
69 gcc ggc ctc ttc gcc aag cag gtg cag aag aag ttt agc agg gcc cag      102
70 Ala Gly Leu Phe Ala Lys Gln Val Gln Lys Lys Phe Ser Arg Ala Gln
71 10             15             20             25
73 gag aag gtg ctg cag aaa ttg ggg aaa gct gta gaa acc aaa gat gaa      150
74 Glu Lys Val Leu Gln Lys Leu Gly Lys Ala Val Glu Thr Lys Asp Glu
75             30             35             40
77 cga ttt gaa caa agc gct agc aac ttc tac caa caa cag gca gaa ggc      198
78 Arg Phe Glu Gln Ser Ala Ser Asn Phe Tyr Gln Gln Gln Ala Glu Gly
79             45             50             55
81 cac aag ctg tac aag gac ctg aag aac ttc ctt agt gca gtc aaa gtg      246
82 His Lys Leu Tyr Lys Asp Leu Lys Asn Phe Leu Ser Ala Val Lys Val
83             60             65             70
85 atg cat gaa agt tca aaa aga gtg tca gaa acc ctg cag gag atc tac      294
86 Met His Glu Ser Ser Lys Arg Val Ser Glu Thr Leu Gln Glu Ile Tyr
87             75             80             85
89 agc agc gag tgg gac ggt cat gag gag ctg aag gcc atc gta tgg aat      342

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

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TIME: 17:51:08

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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91	90					95					100					105	
93	aat	gat	ctc	ctt	tgg	gaa	gac	tac	gag	gag	aaa	ctg	gct	gac	cag	gct	390
94	Asn	Asp	Leu	Leu	Trp	Glu	Asp	Tyr	Glu	Glu	Lys	Leu	Ala	Asp	Gln	Ala	
95					110					115					120		
97	gta	agg	acc	atg	gaa	atc	tat	gtt	gcc	cag	ttc	agt	gaa	att	aag	gag	438
98	Val	Arg	Thr	Met	Glu	Ile	Tyr	Val	Ala	Gln	Phe	Ser	Glu	Ile	Lys	Glu	
99				125					130					135			
101	aga	att	gcc	aag	cgg	ggt	cgg	aaa	ctc	gtg	gac	tat	gac	agt	gcc	cga	486
102	Arg	Ile	Ala	Lys	Arg	Gly	Arg	Lys	Leu	Val	Asp	Tyr	Asp	Ser	Ala	Arg	
103			140					145					150				
105	cac	cac	ctg	gag	gca	gtg	cag	aat	gcc	aag	aaa	gat	gag	gcc	aag	act	534
106	His	His	Leu	Glu	Ala	Val	Gln	Asn	Ala	Lys	Lys	Asp	Glu	Ala	Lys	Thr	
107		155					160					165					
109	gcc	aag	gca	gag	gaa	gag	ttc	aac	aaa	gcc	cag	act	gtg	ttt	gaa	gat	582
110	Ala	Lys	Ala	Glu	Glu	Glu	Phe	Asn	Lys	Ala	Gln	Thr	Val	Phe	Glu	Asp	
111	170					175					180				185		
113	ctg	aac	caa	gaa	cta	cta	gag	gag	ctg	cct	att	ctt	tat	aat	agt	cgt	630
114	Leu	Asn	Gln	Glu	Leu	Leu	Glu	Glu	Leu	Pro	Ile	Leu	Tyr	Asn	Ser	Arg	
115				190						195					200		
117	att	ggc	tgc	tat	gtg	acc	atc	ttc	caa	aac	att	tcc	aac	ttg	agg	gat	678
118	Ile	Gly	Cys	Tyr	Val	Thr	Ile	Phe	Gln	Asn	Ile	Ser	Asn	Leu	Arg	Asp	
119			205					210					215				
121	gtc	ttc	tac	agg	gaa	atg	agc	aag	ctg	aac	cac	aat	ctc	tac	gag	gtg	726
122	Val	Phe	Tyr	Arg	Glu	Met	Ser	Lys	Leu	Asn	His	Asn	Leu	Tyr	Glu	Val	
123			220					225					230				
125	atg	agc	aaa	ctg	gag	aag	caa	cat	tcc	aat	aaa	gtc	ttt	gtg	gtg	aag	774
126	Met	Ser	Lys	Leu	Glu	Lys	Gln	His	Ser	Asn	Lys	Val	Phe	Val	Val	Lys	
127		235					240					245					
129	gga	ctg	tca	agc	agc	agc	agg	cgc	tct	tta	gtc	att	tct	ccc	cca	gtt	822
130	Gly	Leu	Ser	Ser	Ser	Ser	Arg	Arg	Ser	Leu	Val	Ile	Ser	Pro	Pro	Val	
131	250					255					260					265	
133	cga	aca	gct	aca	gtc	tcc	agt	cct	ctt	acc	tca	cct	act	agt	ccc	tct	870
134	Arg	Thr	Ala	Thr	Val	Ser	Ser	Pro	Leu	Thr	Ser	Pro	Thr	Ser	Pro	Ser	
135				270					275					280			
137	aca	ctt	tcc	ttg	aag	agt	gag	agt	gaa	tct	gtc	tca	gca	act	gaa	gat	918
138	Thr	Leu	Ser	Leu	Lys	Ser	Glu	Ser	Glu	Ser	Val	Ser	Ala	Thr	Glu	Asp	
139			285					290					295				
141	ctg	gca	cct	gat	gca	gcc	caa	ggg	gaa	gac	aat	tct	gag	atc	aag	gag	966
142	Leu	Ala	Pro	Asp	Ala	Ala	Gln	Gly	Glu	Asp	Asn	Ser	Glu	Ile	Lys	Glu	
143		300					305						310				
145	ctc	tta	gaa	gag	gag	gaa	ata	gag	aag	gaa	gga	tct	gaa	gca	agc	tcc	1014
146	Leu	Leu	Glu	Glu	Glu	Glu	Ile	Glu	Lys	Glu	Gly	Ser	Glu	Ala	Ser	Ser	
147		315				320						325					
149	tct	gag	gaa	gat	gac	cct	cta	cca	gcc	tgc	aat	ggc	ccc	gcc	cag	gcc	1062
150	Ser	Glu	Glu	Asp	Asp	Pro	Leu	Pro	Ala	Cys	Asn	Gly	Pro	Ala	Gln	Ala	
151	330					335				340					345		
153	cag	ccc	tct	cct	acc	act	gag	agg	gcc	aag	tcc	cag	gag	gaa	gtt	ctc	1110
154	Gln	Pro	Ser	Pro	Thr	Thr	Glu	Arg	Ala	Lys	Ser	Gln	Glu	Glu	Val	Leu	

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DATE: 01/27/2003

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TIME: 17:51:08

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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157 ccc agc tcc aca act cca tca cca ggc gga gcc ctg agc cct tca ggg      1158
158 Pro Ser Ser Thr Thr Pro Ser Pro Gly Gly Ala Leu Ser Pro Ser Gly
159          365          370          375
161 cag cct tca tca tct gcc aca gaa gta gtc ctc cga acc cgc acc gca      1206
162 Gln Pro Ser Ser Ser Ala Thr Glu Val Val Leu Arg Thr Arg Thr Ala
163          380          385          390
165 agt gaa gga tct gaa caa cca aag aag aga gcc tct atc cag agg acc      1254
166 Ser Glu Gly Ser Glu Gln Pro Lys Lys Arg Ala Ser Ile Gln Arg Thr
167          395          400          405
169 tca gca ccc cct agt agg cct cct cca ccc aga gcc act gca agc ccc      1302
170 Ser Ala Pro Pro Ser Arg Pro Pro Pro Pro Arg Ala Thr Ala Ser Pro
171 410          415          420          425
173 agg ccc tcc tca ggg aac ata cct tcc agc cct aca gcc tct gga ggg      1350
174 Arg Pro Ser Ser Gly Asn Ile Pro Ser Ser Pro Thr Ala Ser Gly Gly
175          430          435          440
177 ggt tca ccc acc agc cct agg gcc tcc ttg ggg act ggg act gca agt      1398
178 Gly Ser Pro Thr Ser Pro Arg Ala Ser Leu Gly Thr Gly Thr Ala Ser
179          445          450          455
181 cct agg acc tcc cta gag gtc tct cct aat cca gaa cca cca gag aag      1446
182 Pro Arg Thr Ser Leu Glu Val Ser Pro Asn Pro Glu Pro Pro Glu Lys
183          460          465          470
185 cca gta aga act cct gag gcc aaa gaa aat gaa aac atc cac aat cag      1494
186 Pro Val Arg Thr Pro Glu Ala Lys Glu Asn Glu Asn Ile His Asn Gln
187          475          480          485
189 aac cct gaa gaa ctt tgt act tcc ccc acc tta atg aca tct cag gtt      1542
190 Asn Pro Glu Glu Leu Cys Thr Ser Pro Thr Leu Met Thr Ser Gln Val
191 490          495          500          505
193 gct tca gag cct gga gag gca aag aag atg gaa gac aag gaa aag gat      1590
194 Ala Ser Glu Pro Gly Glu Ala Lys Lys Met Glu Asp Lys Glu Lys Asp
195          510          515          520
197 aat aag ctt atc tca gct gac tcc tcg gag ggc caa gac cag ctt caa      1638
198 Asn Lys Leu Ile Ser Ala Asp Ser Ser Glu Gly Gln Asp Gln Leu Gln
199          525          530          535
201 gtc tcc atg gta cca gaa aac aac aac ctc aca gca cct gaa cct caa      1686
202 Val Ser Met Val Pro Glu Asn Asn Asn Leu Thr Ala Pro Glu Pro Gln
203          540          545          550
205 gaa gag gta tcc aca agt gaa aat cca caa ctc tgaagagaaa ctaccaagac      1739
206 Glu Glu Val Ser Thr Ser Glu Asn Pro Gln Leu
207          555          560
209 tctctctgcc ccaaacctcg ccagagaagc tcttcaacca gagggatatag gtcagaggga      1799
211 tataagagcc agcatccatc cctgggttct cagtaggaat gctggtgctg tctaaagacc      1859
213 tggcattaat ggaggcggag gagcagcctt acgggaggga tggaggaggagg caggctgggg      1919
215 agaagagaac attagactca gggaatatatt aattctgggt ttagcattat tagaataaga      1979
W--> 217 ctttatacat taactaaagt ggagctttaa tcactataaa aagcaaaagt atntatagac      2039
219 acagacactt gcctatacag agacataacc acacacactc agaggatagt gaacaaatct      2099
221 gtctttgact tacgacccat tttgcaagac ttaaagccga aagaacacat tttcagattg      2159
223 ttaaataaag tctgattctg actaaaaaaa aaaaaaa      2196
226 <210> SEQ ID NO: 2

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:51:08

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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230 <212> TYPE: PRT
232 <213> ORGANISM: Homo sapiens
235 <400> SEQUENCE: 2
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238 1 5 10 15
241 Val Gln Lys Lys Phe Ser Arg Ala Gln Glu Lys Val Leu Gln Lys Leu
242 20 25 30
245 Gly Lys Ala Val Glu Thr Lys Asp Glu Arg Phe Glu Gln Ser Ala Ser
246 35 40 45
249 Asn Phe Tyr Gln Gln Gln Ala Glu Gly His Lys Leu Tyr Lys Asp Leu
250 50 55 60
253 Lys Asn Phe Leu Ser Ala Val Lys Val Met His Glu Ser Ser Lys Arg
254 65 70 75 80
257 Val Ser Glu Thr Leu Gln Glu Ile Tyr Ser Ser Glu Trp Asp Gly His
258 85 90 95
261 Glu Glu Leu Lys Ala Ile Val Trp Asn Asn Asp Leu Leu Trp Glu Asp
262 100 105 110
265 Tyr Glu Glu Lys Leu Ala Asp Gln Ala Val Arg Thr Met Glu Ile Tyr
266 115 120 125
269 Val Ala Gln Phe Ser Glu Ile Lys Glu Arg Ile Ala Lys Arg Gly Arg
270 130 135 140
273 Lys Leu Val Asp Tyr Asp Ser Ala Arg His His Leu Glu Ala Val Gln
274 145 150 155 160
277 Asn Ala Lys Lys Asp Glu Ala Lys Thr Ala Lys Ala Glu Glu Glu Phe
278 165 170 175
281 Asn Lys Ala Gln Thr Val Phe Glu Asp Leu Asn Gln Glu Leu Leu Glu
282 180 185 190
285 Glu Leu Pro Ile Leu Tyr Asn Ser Arg Ile Gly Cys Tyr Val Thr Ile
286 195 200 205
289 Phe Gln Asn Ile Ser Asn Leu Arg Asp Val Phe Tyr Arg Glu Met Ser
290 210 215 220
293 Lys Leu Asn His Asn Leu Tyr Glu Val Met Ser Lys Leu Glu Lys Gln
294 225 230 235 240
297 His Ser Asn Lys Val Phe Val Val Lys Gly Leu Ser Ser Ser Ser Arg
298 245 250 255
301 Arg Ser Leu Val Ile Ser Pro Pro Val Arg Thr Ala Thr Val Ser Ser
302 260 265 270
305 Pro Leu Thr Ser Pro Thr Ser Pro Ser Thr Leu Ser Leu Lys Ser Glu
306 275 280 285
309 Ser Glu Ser Val Ser Ala Thr Glu Asp Leu Ala Pro Asp Ala Ala Gln
310 290 295 300
313 Gly Glu Asp Asn Ser Glu Ile Lys Glu Leu Leu Glu Glu Glu Glu Ile
314 305 310 315 320
317 Glu Lys Glu Gly Ser Glu Ala Ser Ser Ser Glu Glu Asp Asp Pro Leu
318 325 330 335
321 Pro Ala Cys Asn Gly Pro Ala Gln Ala Gln Pro Ser Pro Thr Thr Glu
322 340 345 350
325 Arg Ala Lys Ser Gln Glu Glu Val Leu Pro Ser Ser Thr Thr Pro Ser

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:51:08

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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326          355          360          365
329 Pro Gly Gly Ala Leu Ser Pro Ser Gly Gln Pro Ser Ser Ser Ala Thr
330          370          375          380
333 Glu Val Val Leu Arg Thr Arg Thr Ala Ser Glu Gly Ser Glu Gln Pro
334 385          390          395          400
337 Lys Lys Arg Ala Ser Ile Gln Arg Thr Ser Ala Pro Pro Ser Arg Pro
338          405          410          415
341 Pro Pro Pro Arg Ala Thr Ala Ser Pro Arg Pro Ser Ser Gly Asn Ile
342          420          425          430
345 Pro Ser Ser Pro Thr Ala Ser Gly Gly Gly Ser Pro Thr Ser Pro Arg
346          435          440          445
349 Ala Ser Leu Gly Thr Gly Thr Ala Ser Pro Arg Thr Ser Leu Glu Val
350          450          455          460
353 Ser Pro Asn Pro Glu Pro Pro Glu Lys Pro Val Arg Thr Pro Glu Ala
354 465          470          475          480
357 Lys Glu Asn Glu Asn Ile His Asn Gln Asn Pro Glu Glu Leu Cys Thr
358          485          490          495
361 Ser Pro Thr Leu Met Thr Ser Gln Val Ala Ser Glu Pro Gly Glu Ala
362          500          505          510
365 Lys Lys Met Glu Asp Lys Glu Lys Asp Asn Lys Leu Ile Ser Ala Asp
366          515          520          525
369 Ser Ser Glu Gly Gln Asp Gln Leu Gln Val Ser Met Val Pro Glu Asn
370          530          535          540
373 Asn Asn Leu Thr Ala Pro Glu Pro Gln Glu Glu Val Ser Thr Ser Glu
374 545          550          555          560
377 Asn Pro Gln Leu
381 <210> SEQ ID NO: 3
383 <211> LENGTH: 252
385 <212> TYPE: PRT
387 <213> ORGANISM: Homo sapiens
391 <400> SEQUENCE: 3
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397 Asn Val Gln Lys Lys Leu Thr Arg Ala Gln Glu Lys Val Leu Gln Lys
398          20          25          30
401 Leu Gly Lys Ala Asp Glu Thr Lys Asp Glu Gln Phe Glu Gln Cys Val
402          35          40          45
405 Gln Asn Phe Asn Lys Gln Leu Thr Glu Gly Thr Arg Leu Gln Lys Asp
406          50          55          60
409 Leu Arg Thr Tyr Leu Ala Ser Val Lys Ala Met His Glu Ala Ser Lys
410 65          70          75          80
413 Lys Leu Asn Glu Cys Leu Gln Glu Val Tyr Glu Pro Asp Trp Pro Gly
414          85          90          95
417 Arg Asp Glu Ala Asn Lys Ile Ala Glu Asn Asn Asp Leu Leu Trp Met
418          100          105          110
421 Asp Tyr His Gln Lys Leu Val Asp Gln Ala Leu Leu Thr Met Asp Thr
422          115          120          125
425 Tyr Leu Gly Gln Phe Pro Asp Ile Lys Ser Arg Ile Ala Lys Arg Gly
426          130          135          140

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 01/27/2003  
PATENT APPLICATION:    US/10/069,540A      TIME: 17:51:09

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt  
Output Set: N:\CRF4\01272003\J069540A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 2032

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 11

VERIFICATION SUMMARY

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:51:09

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\PTO.AMC.txt

Output Set: N:\CRF4\01272003\J069540A.raw

L:20 M:270 C: Current Application Number differs, Replaced Current Application No

L:20 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:64 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:1,Line#:50

L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:1979





OIPE

## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:47:53

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt

Output Set: N:\CRF4\01272003\J069540A.raw

5 <110> APPLICANT: Prendergast, George C.  
7 Kai, Ge  
11 <120> TITLE OF INVENTION: Bridging Integrator-2 (BIN2) Nucleic Acid Molecules and  
Proteins and Uses  
12 Therefor  
16 <130> FILE REFERENCE: WST89AUSA  
C--> 20 <140> CURRENT APPLICATION NUMBER: US/10/069,540A  
C--> 20 <141> CURRENT FILING DATE: 2002-02-25  
20 <150> PRIOR APPLICATION NUMBER: US 60/151,554  
22 <151> PRIOR FILING DATE: 1999-08-31  
26 <160> NUMBER OF SEQ ID NOS: 4  
30 <170> SOFTWARE: PatentIn version 3.1  
34 <210> SEQ ID NO: 1  
36 <211> LENGTH: 2196  
38 <212> TYPE: DNA  
40 <213> ORGANISM: Homo sapiens  
44 <220> FEATURE:  
46 <221> NAME/KEY: CDS  
48 <222> LOCATION: (28)..(1719)  
50 <223> OTHER INFORMATION:  
54 <220> FEATURE:  
56 <221> NAME/KEY: misc\_feature  
58 <222> LOCATION: (2032)..(2032)  
60 <223> OTHER INFORMATION: can be a or c or g or t  
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65 gcggccgcgt cgacgggagtg tggcagg atg gca gag ggc aag gca ggc ggc ggc 54  
66 Met Ala Glu Gly Lys Ala Gly Gly Ala  
67 1 5  
69 gcc ggc ctc ttc gcc aag cag gtg cag aag aag ttt agc agg gcc cag 102  
70 Ala Gly Leu Phe Ala Lys Gln Val Gln Lys Lys Phe Ser Arg Ala Gln  
71 10 15 20 25  
73 gag aag gtg ctg cag aaa ttg ggg aaa gct gta gaa acc aaa gat gaa 150  
74 Glu Lys Val Leu Gln Lys Leu Gly Lys Ala Val Glu Thr Lys Asp Glu  
75 30 35 40  
77 cga ttt gaa caa agc gct agc aac ttc tac caa caa cag gca gaa ggc 198  
78 Arg Phe Glu Gln Ser Ala Ser Asn Phe Tyr Gln Gln Gln Ala Glu Gly  
79 45 50 55  
81 cac aag ctg tac aag gac ctg aag aac ttc ctt agt gca gtc aaa gtg 246  
82 His Lys Leu Tyr Lys Asp Leu Lys Asn Phe Leu Ser Ala Val Lys Val  
83 60 65 70  
85 atg cat gaa agt tca aaa aga gtg tca gaa acc ctg cag gag atc tac 294  
86 Met His Glu Ser Ser Lys Arg Val Ser Glu Thr Leu Gln Glu Ile Tyr  
87 75 80 85  
89 agc agc gag tgg gac ggt cat gag gag ctg aag gcc atc gta tgg aat 342

Does Not Comply  
Corrected Diskette Needed

P.4

## RAW SEQUENCE LISTING

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TIME: 17:47:53

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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90 Ser Ser Glu Trp Asp Gly His Glu Glu Leu Lys Ala Ile Val Trp Asn
91 90                      95                      100                      105
93 aat gat ctc ctt tgg gaa gac tac gag gag aaa ctg gct gac cag gct      390
94 Asn Asp Leu Leu Trp Glu Asp Tyr Glu Glu Lys Leu Ala Asp Gln Ala
95                      110                      115                      120
97 gta agg acc atg gaa atc tat gtt gcc cag ttc agt gaa att aag gag      438
98 Val Arg Thr Met Glu Ile Tyr Val Ala Gln Phe Ser Glu Ile Lys Glu
99                      125                      130                      135
101 aga att gcc aag cgg ggt cgg aaa ctc gtg gac tat gac agt gcc cga      486
102 Arg Ile Ala Lys Arg Gly Arg Lys Leu Val Asp Tyr Asp Ser Ala Arg
103                      140                      145                      150
105 cac cac ctg gag gca gtg cag aat gcc aag aaa gat gag gcc aag act      534
106 His His Leu Glu Ala Val Gln Asn Ala Lys Lys Asp Glu Ala Lys Thr
107                      155                      160                      165
109 gcc aag gca gag gaa gag ttc aac aaa gcc cag act gtg ttt gaa gat      582
110 Ala Lys Ala Glu Glu Glu Phe Asn Lys Ala Gln Thr Val Phe Glu Asp
111 170                      175                      180                      185
113 ctg aac caa gaa cta gag gag ctg cct att ctt tat aat agt cgt      630
114 Leu Asn Gln Glu Leu Leu Glu Glu Leu Pro Ile Leu Tyr Asn Ser Arg
115                      190                      195                      200
117 att ggc tgc tat gtg acc atc ttc caa aac att tcc aac ttg agg gat      678
118 Ile Gly Cys Tyr Val Thr Ile Phe Gln Asn Ile Ser Asn Leu Arg Asp
119                      205                      210                      215
121 gtc ttc tac agg gaa atg agc aag ctg aac cac aat ctc tac gag gtg      726
122 Val Phe Tyr Arg Glu Met Ser Lys Leu Asn His Asn Leu Tyr Glu Val
123                      220                      225                      230
125 atg agc aaa ctg gag aag caa cat tcc aat aaa gtc ttt gtg gtg aag      774
126 Met Ser Lys Leu Glu Lys Gln His Ser Asn Lys Val Phe Val Val Lys
127                      235                      240                      245
129 gga ctg tca agc agc agc agg cgc tct tta gtc att tct ccc cca gtt      822
130 Gly Leu Ser Ser Ser Ser Arg Arg Ser Leu Val Ile Ser Pro Pro Val
131 250                      255                      260                      265
133 cga aca gct aca gtc tcc agt cct ctt acc tca cct act agt ccc tct      870
134 Arg Thr Ala Thr Val Ser Ser Pro Leu Thr Ser Pro Thr Ser Pro Ser
135                      270                      275                      280
137 aca ctt tcc ttg aag agt gag agt gaa tct gtc tca gca act gaa gat      918
138 Thr Leu Ser Leu Lys Ser Glu Ser Glu Ser Val Ser Ala Thr Glu Asp
139                      285                      290                      295
141 ctg gca cct gat gca gcc caa ggg gaa gac aat tct gag atc aag gag      966
142 Leu Ala Pro Asp Ala Ala Gln Gly Glu Asp Asn Ser Glu Ile Lys Glu
143                      300                      305                      310
145 ctc tta gaa gag gag gaa ata gag aag gaa gga tct gaa gca agc tcc      1014
146 Leu Leu Glu Glu Glu Glu Ile Glu Lys Glu Gly Ser Glu Ala Ser Ser
147                      315                      320                      325
149 tct gag gaa gat gac cct cta cca gcc tgc aat ggc ccc gcc cag gcc      1062
150 Ser Glu Glu Asp Asp Pro Leu Pro Ala Cys Asn Gly Pro Ala Gln Ala
151 330                      335                      340                      345
153 cag ccc tct cct acc act gag agg gcc aag tcc cag gag gaa gtt ctc      1110
154 Gln Pro Ser Pro Thr Thr Glu Arg Ala Lys Ser Gln Glu Glu Val Leu

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:47:53

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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155          350          355          360
157 ccc agc tcc aca act cca tca cca ggc gga gcc ctg agc cct tca ggg      1158
158 Pro Ser Ser Thr Thr Pro Ser Pro Gly Gly Ala Leu Ser Pro Ser Gly
159          365          370          375
161 cag cct tca tca tct gcc aca gaa gta gtc ctc cga acc cgc acc gca      1206
162 Gln Pro Ser Ser Ser Ala Thr Glu Val Val Leu Arg Thr Arg Thr Ala
163          380          385          390
165 agt gaa gga tct gaa caa cca aag aag aga gcc tct atc cag agg acc      1254
166 Ser Glu Gly Ser Glu Gln Pro Lys Lys Arg Ala Ser Ile Gln Arg Thr
167          395          400          405
169 tca gca ccc cct agt agg cct cct cca ccc aga gcc act gca agc ccc      1302
170 Ser Ala Pro Pro Ser Arg Pro Pro Pro Pro Arg Ala Thr Ala Ser Pro
171 410          415          420          425
173 agg ccc tcc tca ggg aac ata cct tcc agc cct aca gcc tct gga ggg      1350
174 Arg Pro Ser Ser Gly Asn Ile Pro Ser Ser Pro Thr Ala Ser Gly Gly
175          430          435          440
177 ggt tca ccc acc agc cct agg gcc tcc ttg ggg act ggg act gca agt      1398
178 Gly Ser Pro Thr Ser Pro Arg Ala Ser Leu Gly Thr Gly Thr Ala Ser
179          445          450          455
181 cct agg acc tcc cta gag gtc tct cct aat cca gaa cca cca gag aag      1446
182 Pro Arg Thr Ser Leu Glu Val Ser Pro Asn Pro Glu Pro Pro Glu Lys
183          460          465          470
185 cca gta aga act cct gag gcc aaa gaa aat gaa aac atc cac aat cag      1494
186 Pro Val Arg Thr Pro Glu Ala Lys Glu Asn Glu Asn Ile His Asn Gln
187          475          480          485
189 aac cct gaa gaa ctt tgt act tcc ccc acc tta atg aca tct cag gtt      1542
190 Asn Pro Glu Glu Leu Cys Thr Ser Pro Thr Leu Met Thr Ser Gln Val
191 490          495          500          505
193 gct tca gag cct gga gag gca aag aag atg gaa gac aag gaa aag gat      1590
194 Ala Ser Glu Pro Gly Glu Ala Lys Lys Met Glu Asp Lys Glu Lys Asp
195          510          515          520
197 aat aag ctt atc tca gct gac tcc tcg gag ggc caa gac cag ctt caa      1638
198 Asn Lys Leu Ile Ser Ala Asp Ser Ser Glu Gly Gln Asp Gln Leu Gln
199          525          530          535
201 gtc tcc atg gta cca gaa aac aac aac ctc aca gca cct gaa cct caa      1686
202 Val Ser Met Val Pro Glu Asn Asn Asn Leu Thr Ala Pro Glu Pro Gln
203          540          545          550
205 gaa gag gta tcc aca agt gaa aat cca caa ctc tgaagagaaa ctaccaagac      1739
206 Glu Glu Val Ser Thr Ser Glu Asn Pro Gln Leu
207          555          560
209 tcctcctgcc ccaaacctcg ccagagaagc tcttcaacca gagggatatag gtcagaggga      1799
211 tataagagcc agcatccatc cctgggttct cagtaggaat gctggtgctg tctaaagacc      1859
213 tggcattaat ggaggcggag gagcagcctt acgggaggga tggaggaggag caggctgggg      1919
215 agaagagaac attagactca gggaatatatt aattctggtt ttagcattat tagaataaga      1979
W--> 217 ctttatacat taactaaagt ggagctttaa tcactataaa aagcaaaagt atntatagac      2039
219 acagacactt gcctatacag agacataacc acacacactc agaggatagt gaacaaatct      2099
221 gtctttgact tacgacccat tttgcaagac ttaaagccga aagaacacat tttcagattg      2159
223 ttaaataaag tctgattctg actaaaaaaaa aaaaaaa      2196
226 <210> SEQ ID NO: 2

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## RAW SEQUENCE LISTING

DATE: 01/27/2003

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TIME: 17:47:53

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt

Output Set: N:\CRF4\01272003\J069540A.raw

228 <211> LENGTH: 564  
 230 <212> TYPE: PRT  
 232 <213> ORGANISM: Homo sapiens  
 236 <220> FEATURE:  
 238 <221> NAME/KEY: misc\_feature  
 240 <222> LOCATION: (2032)..(2032)  
 242 <223> OTHER INFORMATION: can be a or c or g or t  
 244 <400> SEQUENCE: 2

246	Met	Ala	Glu	Gly	Lys	Ala	Gly	Gly	Ala	Ala	Gly	Leu	Phe	Ala	Lys	Gln
247	1				5				10						15	
250	Val	Gln	Lys	Lys	Phe	Ser	Arg	Ala	Gln	Glu	Lys	Val	Leu	Gln	Lys	Leu
251				20					25					30		
254	Gly	Lys	Ala	Val	Glu	Thr	Lys	Asp	Glu	Arg	Phe	Glu	Gln	Ser	Ala	Ser
255			35					40					45			
258	Asn	Phe	Tyr	Gln	Gln	Gln	Ala	Glu	Gly	His	Lys	Leu	Tyr	Lys	Asp	Leu
259		50					55					60				
262	Lys	Asn	Phe	Leu	Ser	Ala	Val	Lys	Val	Met	His	Glu	Ser	Ser	Lys	Arg
263	65					70				75					80	
266	Val	Ser	Glu	Thr	Leu	Gln	Glu	Ile	Tyr	Ser	Ser	Glu	Trp	Asp	Gly	His
267				85					90					95		
270	Glu	Glu	Leu	Lys	Ala	Ile	Val	Trp	Asn	Asp	Leu	Leu	Trp	Glu	Asp	
271			100						105				110			
274	Tyr	Glu	Glu	Lys	Leu	Ala	Asp	Gln	Ala	Val	Arg	Thr	Met	Glu	Ile	Tyr
275			115				120					125				
278	Val	Ala	Gln	Phe	Ser	Glu	Ile	Lys	Glu	Arg	Ile	Ala	Lys	Arg	Gly	Arg
279		130					135					140				
282	Lys	Leu	Val	Asp	Tyr	Asp	Ser	Ala	Arg	His	His	Leu	Glu	Ala	Val	Gln
283	145					150				155					160	
286	Asn	Ala	Lys	Lys	Asp	Glu	Ala	Lys	Thr	Ala	Lys	Ala	Glu	Glu	Glu	Phe
287				165					170					175		
290	Asn	Lys	Ala	Gln	Thr	Val	Phe	Glu	Asp	Leu	Asn	Gln	Glu	Leu	Leu	Glu
291			180						185				190			
294	Glu	Leu	Pro	Ile	Leu	Tyr	Asn	Ser	Arg	Ile	Gly	Cys	Tyr	Val	Thr	Ile
295			195					200					205			
298	Phe	Gln	Asn	Ile	Ser	Asn	Leu	Arg	Asp	Val	Phe	Tyr	Arg	Glu	Met	Ser
299		210					215					220				
302	Lys	Leu	Asn	His	Asn	Leu	Tyr	Glu	Val	Met	Ser	Lys	Leu	Glu	Lys	Gln
303	225					230					235				240	
306	His	Ser	Asn	Lys	Val	Phe	Val	Val	Lys	Gly	Leu	Ser	Ser	Ser	Ser	Arg
307				245						250					255	
310	Arg	Ser	Leu	Val	Ile	Ser	Pro	Pro	Val	Arg	Thr	Ala	Thr	Val	Ser	Ser
311			260						265					270		
314	Pro	Leu	Thr	Ser	Pro	Thr	Ser	Pro	Ser	Thr	Leu	Ser	Leu	Lys	Ser	Glu
315			275					280					285			
318	Ser	Glu	Ser	Val	Ser	Ala	Thr	Glu	Asp	Leu	Ala	Pro	Asp	Ala	Ala	Gln
319		290					295					300				
322	Gly	Glu	Asp	Asn	Ser	Glu	Ile	Lys	Glu	Leu	Leu	Glu	Glu	Glu	Glu	Ile
323	305					310					315				320	
326	Glu	Lys	Glu	Gly	Ser	Glu	Ala	Ser	Ser	Ser	Glu	Glu	Asp	Asp	Pro	Leu

*delete this**This is copied from seq. 1. Only**564 amino acids are in seq. 2.*

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/069,540A

DATE: 01/27/2003

TIME: 17:47:53

Input Set : N:\Crif3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt

Output Set: N:\CRF4\01272003\J069540A.raw

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327          325          330          335
330 Pro Ala Cys Asn Gly Pro Ala Gln Ala Gln Pro Ser Pro Thr Thr Glu
331          340          345          350
334 Arg Ala Lys Ser Gln Glu Glu Val Leu Pro Ser Ser Thr Thr Pro Ser
335          355          360          365
338 Pro Gly Gly Ala Leu Ser Pro Ser Gly Gln Pro Ser Ser Ser Ala Thr
339          370          375          380
342 Glu Val Val Leu Arg Thr Arg Thr Ala Ser Glu Gly Ser Glu Gln Pro
343 385          390          395          400
346 Lys Lys Arg Ala Ser Ile Gln Arg Thr Ser Ala Pro Pro Ser Arg Pro
347          405          410          415
350 Pro Pro Pro Arg Ala Thr Ala Ser Pro Arg Pro Ser Ser Gly Asn Ile
351          420          425          430
354 Pro Ser Ser Pro Thr Ala Ser Gly Gly Gly Ser Pro Thr Ser Pro Arg
355          435          440          445
358 Ala Ser Leu Gly Thr Gly Thr Ala Ser Pro Arg Thr Ser Leu Glu Val
359          450          455          460
362 Ser Pro Asn Pro Glu Pro Pro Glu Lys Pro Val Arg Thr Pro Glu Ala
363 465          470          475          480
366 Lys Glu Asn Glu Asn Ile His Asn Gln Asn Pro Glu Glu Leu Cys Thr
367          485          490          495
370 Ser Pro Thr Leu Met Thr Ser Gln Val Ala Ser Glu Pro Gly Glu Ala
371          500          505          510
374 Lys Lys Met Glu Asp Lys Glu Lys Asp Asn Lys Leu Ile Ser Ala Asp
375          515          520          525
378 Ser Ser Glu Gly Gln Asp Gln Leu Gln Val Ser Met Val Pro Glu Asn
379          530          535          540
382 Asn Asn Leu Thr Ala Pro Glu Pro Gln Glu Glu Val Ser Thr Ser Glu
383 545          550          555          560
386 Asn Pro Gln Leu
390 <210> SEQ ID NO: 3
392 <211> LENGTH: 252
394 <212> TYPE: PRT
396 <213> ORGANISM: Homo sapiens
400 <400> SEQUENCE: 3
402 Met Ala Glu Met Gly Ser Lys Gly Val Thr Ala Gly Lys Ile Ala Ser
403 1          5          10          15
406 Asn Val Gln Lys Lys Leu Thr Arg Ala Gln Glu Lys Val Leu Gln Lys
407          20          25          30
410 Leu Gly Lys Ala Asp Glu Thr Lys Asp Glu Gln Phe Glu Gln Cys Val
411          35          40          45
414 Gln Asn Phe Asn Lys Gln Leu Thr Glu Gly Thr Arg Leu Gln Lys Asp
415          50          55          60
418 Leu Arg Thr Tyr Leu Ala Ser Val Lys Ala Met His Glu Ala Ser Lys
419 65          70          75          80
422 Lys Leu Asn Glu Cys Leu Gln Glu Val Tyr Glu Pro Asp Trp Pro Gly
423          85          90          95
426 Arg Asp Glu Ala Asn Lys Ile Ala Glu Asn Asn Asp Leu Leu Trp Met
427          100          105          110

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 01/27/2003  
PATENT APPLICATION:    US/10/069,540A      TIME: 17:47:54

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt  
Output Set: N:\CRF4\01272003\J069540A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 2032

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 11

**VERIFICATION SUMMARY**

DATE: 01/27/2003

PATENT APPLICATION: US/10/069,540A

TIME: 17:47:54

Input Set : N:\Crf3\dbback2\Datahold\EFS\10069540\WST89AUSA.txt  
Output Set: N:\CRF4\01272003\J069540A.raw

L:20 M:270 C: Current Application Number differs, Replaced Current Application No  
L:20 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:64 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:1,Line#:50  
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:1979